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ABSTRACT

Reactions to the "woman the gatherer" theory, introduced in the 1970's as an alternative to the "man the hunter" thesis in anthropology, have been to accept, ignore it, or combine it with the hunting theory. The "man the hunter" model stresses that primitive males hunted for meat and provided food and protection for their mates and children who stayed at the home base. The competing hypothesis suggests that major food of early human beings consisted of plants, obtained by women with the use of tools and shared with their offspring. The contrast focuses on how female behavior is conceptualized: as mobile and active or as sedentary and passive. Responses to both theories, however, depend on which anthropological evidence is used, how it is interpreted, what animal models are used, and which behaviors form the starting point. Future analysis should recognize the underlying continuity in the evolutionary process, question the tendency to assign roles by sex, recognize that no one scenario exists for the four million years of prehistory, and focus on questions outside the models, both of which have stressed food and gender roles. (KC)

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WHAT HAPPENED TO WOMAN THE GATHERER?

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Symposium: Worlds in Collision: the Impact of Feminist Scholarship in Anthropology

Organized by: Rayna Rapp and Carole Vance

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WHAT HAPPENED TO WOMAN THE GATHERER?

During the 1960's, the scenaric of "Man the Hunter" explained new behaviors in human evolution and the roles of men and women -- mainly men. In 1970 a competing hypothesis came forth from Sally Linton, and "Woman the Gatherer" was given a place in human evolution.[1] Linton's argument utilized 1) new data growing out of research in the 1960's on primate behavior, especially chimpanzee behavior, and on hunting-gathering peoples; and 2) a changing ideology and awareness of women's roles emerging from the women's liberation movement. The subtitle of Linton's talk -- Male Bias in Anthropology -- reflected this awareness. During the 1970's "Woman the Gatherer" was elaborated by incorporating data from molecular studies, the fossil record, ecology, and further documenting the behavior of chimpanzees and hunter-gatherers.[2-5]

The earlier "Man the Hunter" model stressed that eating meat was a new behavior that first appeared when humans evolved away from the apes, and that hunting by males was the means of obtaining it.[5-8] In this scenario, a pair bond, loss of estrus, division of labor by sex, and a home base are central components. Bipedal locomotion evolved, therefore, for freeing the hands to make and use tools for hunting, and for following animals and carrying the meat. The central social ties of human groups existed between a pair bonded male and female, and strong social bonds between adult males ensured a successful hunt. Food-sharing meant that males gave meat to

their mates and offspring. Communication and intelligence also evolved for master-minding the hunt. Women, meanwhile, at the home base, were reproducing and making themselves attractive to men -- losing estrus and forming pair bonds* thereby ensuring males of regular and exclusive sex and females of regular food and protection.

The competing hypothesis "Woman the Gatherer" argued that during this early period when the hominid lineage was diverging from the apes, the major food items consisted of plants, obtained by women with the use of tools, and shared with their offspring. Bipedal locomotion enabled women to walk long distances to find and collect plants, and to carry food and babies. Central to social life were long-term bonds between mother and offspring. (This bond is primary in the social development of all primates, and early hominids would be no exception). This hypothesis did not exclude the possibility of eating meat, but it did not require that tools or hunting were essential for obtaining it. Nor did it consider that pair bonds or monogamy even existed or were prerequisites for sharing food and the basis for early hominid social life.

Points of contrast between these two hypotheses show

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* The assumption that a pair bond or monogamy (not the same thing) is the fundamental type of mating pattern for early hominids must be seriously questioned, even though this "fact" has become ingrained in almost all reconstructions of early hominid behavior. Other more viable interpretations based upon more complete evidence are possible; see refs 2-4 and 9 for discussions of pair bonds.

a significant difference in emphasis: "Woman the Gatherer" scenario stressed that obtaining plant food with tools was "new" in human evolution and assumed that the hominid ancestor already caught and ate small animals.[10] Plants, not meat, were major food items, and plants, not meat, were the focus for technological innovation and new social behaviors. Women, as providers, shared gathered food with their offspring--as opposed to being passively provisioned. Women made and used tools, walked bipedally, and participated equally in choosing mates. The contrast focuses on how female behavior is conceptualized -- as mobile and active or/as sedentary and passive.

What have been the reactions to "Woman the Gatherer?" The range has spanned all possibilities, and here I illustrate with a few examples.

First, a number of women and men have embraced the central idea which at last provided an active place in prehistory for females of the species -- a place long ignored. That's the good news.

Another reaction has been to add gathering to hunting and emphasize a "mixed economy" -- human hunting and gathering.[11,12] In Glynn Isaac's scenario, a division of labor by sex, a pair bond and a home base* are central, and food-sharing is still most important between pair-bonded

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* At these meetings Richard Potts (Yale) presented a paper "Behavioral Interpretations of Lower Pleistocene sites from Olduvai" and concluded that sites formerly said to be camping areas are not.

males and females. Interestingly, as archeological evidence for hunting has not been forthcoming, Isaac's model continues to be modified; his latest view is that scavenging, not hunting, shaped the human adaptation. But little else has changed: meat which is scavenged rather than hunted is taken back to the home base, presumably by men, to share with their hungry mates. Now, according to Isaac in Newsweek earlier this year, scavenging "stimulated the development of language and social patterns." [13]

Still others, such as S.L. Washburn, one of the authors of "Man the Hunter," have maintained that the recent attention to women in evolution, although corrective, has produced a view which is as biased as the one it replaces.[14] Washburn maintains that meat is not given enough importance in "Woman the Gatherer." In his view, meat-eating is equated with hunting, and hunting during this early period of 3-4 million years ago was the primary economic activity. His stand remains completely conjectural, for there is no archeological evidence for hunting in this early period. (The earliest hominids have been found in East Africa at 3.5 million years ago, but the first stone tools are only about 2 million years old.)

Yet another response has been to ignore gathering and women's roles altogether while incorporating a number of its points. The best illustration is the work of Owen Lovejoy. Not only has he ignored women's roles -- he has assigned them to men! His theory for the origin of bipedalism maintains that it arose so that males could collect and carry

food to provision pregnant, lactating, immobile females. Men were provisioning -- not meat from the hunt -- but gathered plant food. And a male provisioned, not just any female, but his female who bore his presumed offspring, and who stayed close to camp. She was having babies so close together that she was no longer mobile as were the ape ancestors. All monkeys and apes, and women in hunter-gatherer groups, carry their babies until they are weaned. For humans it may be as long as four years.[15] In Lovejoy's view, early hominid females depart from this pattern.

Here we have a reversion to the scenario of the 1960's -- women as passive and baby-burdened, men as dominant, controllers of food and sex. But there is a new twist -- intoducing "man the biped" and "man the gatherer." This view has received a great deal of media coverage as a chapter in Don Johanson's book Lucy[16] and as an article in Science 81[17]. Its appearance as a lead article in Science[18] is an endorsement by the scientific establishment. Lovejoy's views run counter to evidence on primate reproduction and social behavior[19] and misrepresents the behavior of contemporary hunting-gathering peoples. In particular, his argument that early hominid females were immobile to ensure the survival of their offspring contradicts the evidence on female primates and women in nomadic groups, whose babies do not die because their mothers are mobile.[15]

These examples of responses to "Woman the Gatherer" illustrate ways the conflict represented by its encounter

with "Man the Hunter" have been minimized, deflected or co-opted. This conflict, I believe, represents a real collision of worlds. One can argue that "Man the Hunter" is ideological or wishful thinking that man can control everything from food to sex. One might also argue the same thing about "Woman the Gatherer", particularly in its extreme form, where women are doing everything and men are tagging along. Responses to "Woman the Gatherer" depend upon which questions are asked or not asked; which evidence is included, which omitted; and how the evidence is interpreted. What animal models are used, and which behaviors provide the starting point? What living human populations provide a contrast -- Western society or hunter-gatherers?

I give an example from recent literature that illustrates this interplay of ideology, evidence and interpretation by contrasting two articles which appeared together in Nature last year. The subject was: cut marks on animal bones from early hominid sites in East Africa between 1.5 and 2 million years ago -- the earliest evidence of stone tools and eating meat in the archeological record. For this time period, there are fewer than ten sites that have been excavated which contain stone tools and animal bones in association.

The first paper by Henry Bunn[20] says that the presence of cut marks document that early hominids were cutting up animal carcasses using stone tools. So far so good. He then goes on to conclude: "In addition to indicating the use of artefacts, this direct evidence of early hominid diet

allows us to dismiss models of human evolution which do not incorporate meat-eating as a significant component of early hominid behavior " (my emphasis). Bunn further concludes that "the documentation of meat-eating and the concentration of bones...lends strong support to the food-sharing model proposed by Isaac."

What is the evidence for his concluding that meat was a significant dietary item? Less than 10 archeological sites during a 500,000 year period! Does this sparse evidence prove that meat was significant in the diet and that we must dump theories that don't agree?

Another view of the same evidence is offered in the second article by Richard Potts and Pat Shipman.[21] They also document the presence of cut marks made by stone tools on animal bones. However, they mention another significant observation -- not all the cut marks that occur are on bones that would have had meat on them. These bones are the metapodials, podials and phalanges, the animal equivalent to hand, foot, finger and toe bones. This interesting piece of information was either not observed or not reported in the first study by Bunn. Such cut marks on 'non-meat' bones suggest that the cuts were made for purposes other than obtaining meat. Skinning in order to obtain the animal skin is one such possibility. The authors conclude, in contrast to the previous article: "The evidence of cutmarks does not bear directly on questions about the frequency of meat-eating and hunting among early hominids." And with this conclusion I agree.

This evidence, as well as findings of other research, indicates that "Man the Hunter" is no longer feasible. Also formulations of "Woman the Gatherer" are not totally satisfactory in their explanations of male behavior, for example, but are still more consistent with much of the evidence. Some of the newer evidence includes: 1) the genetic closeness of humans and African apes lends support to the idea of a similar "ground plan" and adds significance to the similar behavioral findings of tool using and making; omnivorous dietary adaptation; flexible social organization;/and communication patterns; 2) the closeness of humans and African apes indicate a divergence of only about 5 million years ago suggesting the early hominids of 3.5 million years ago, bipedal with chimp-sized brains, may have been more like African apes in behavior than Homo sapiens; 3) meat-eating in chimpanzees occurs in a context that does not require tools or a savanna environment, as assumed for hunting;[10] 4) sharing among chimpanzees may be plant foods as well as meat, and sharing among females and between mother and offspring is common among some chimpanzee groups;[22-24] 5) wooden tools and containers are central to a gathering way of life, even though they would not be preserved in the archeological record;[15] 6) animal bones at early hominid sites do not necessarily mean that their accumulation was due to hominid activity;[25] 7) early hominids occur 1.5 million years prior to the first evidence of stone tools; the hominids have large molar teeth relative to body weight and a masticatory system adapted for grinding -- functionally

like animals which eat mostly plant material rather than meat.[26]

Even though there is abundant evidence to question, even discard, the proposal for hunting early in human evolution, the ideology of "Man the Hunter" has not been given up completely -- or at all in some cases. The ideology responsible for promoting "Woman the Gatherer" helped call attention to the role of women in evolution and thereby bring some balance to evolutionary reconstructions, by incorporating much of this new information.

The 1960's introduced "Man the Hunter" to explain human origins. The 1970's introduced "Woman the Gatherer." In the 1980's we must reach for the next level of analysis by using all the new evidence available, asking different questions, and transcending biased interpretations. How shall we proceed?

First, by recognizing the underlying continuity in the evolutionary process, as natural selection acts on the phenotype, on the behavior of organisms. Evolution is conservative, that is, new structures or behaviors rarely appear de novo (not the same thing as gradually appearing), but they have precursors. Old behavior patterns give way to new ones usually by recombining behavioral elements already present to produce a new behavior pattern. How does one behavior pattern emerge from the previous one? What behavioral elements are involved? To answer such questions/ and to determine the sequence of behavioral change, distinctions must be made, for example, between meat-eating, butchering,

scavenging, and hunting -- they are not all the same thing, but involved different behavioral patterns.

Second, scenarios have tended to assign behavior by sex, as belonging either to males or females, and have tended to emphasize one sex over the other or one food over the other. Neither one sex nor one behavior is responsible for the transformation from ape to human, nor from one level of hominid organization to antoher. There has not been proper attention to delineating the overall behavior pattern of early hominids. To assign a behavior by sex before the whole pattern is set forth puts the cart before the horse, and gives a distorted picture of a social system.

Third, we must recognize that no one scenario exists for the whole four million years of human prehistory; therefore it is essential to specify carefully which time period is under discussion. For example, Isaac's scenario -- modeled after modern hunter-gatherers -- of the division of labor by sex and home bases/might approximate, say, the one million year time level; but it is much too contemporary for the 3-4 million year time when the hominids were only recently separated from the apes.

Finally, we must focus on questions that may lie outside either "man the hunter" or "woman the gather" models which have tended to focus on food and gender roles. We now need to direct more attention to development and socialization of the young. How do they grow up to learn new things? At the development level young individuals learn and transmit cultural patterns which then become part of the overall

behavior pattern of the species. Explanations for the development of intelligence should take social factors into account more and view technological factors in this light.

The next level of analysis cannot be reached until "Woman the Gatherer" model is recognized, addressed, and its short-comings discussed. Nor can it be reached by superimposing gathering on hunting. We have clearly moved beyond both models and it should be possible to develop other plausible scenarios that can be tested with new data to provide, in turn, a basis for asking ever more refined and sophisticated questions. Although no one scenario will be correct in absolute terms, some explanations are better than others in their testability and compatibility with existing data. We have far to go to each an understanding of gender-based behaviors, which are only part of a more general behavior pattern. Hopefully, in the 1980's we shall move in that direction, agreeing on ground rules, thereby averting a collision of world views.

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